

### **REMARKS/ARGUMENTS**

Responsive to the Official Action mailed October 22, 2007, applicants have revised the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, claims 1, 6, 18, 20 and 27 have been amended. Reconsideration is respectfully requested.

Applicants wish to thank the Examiner, Mr. Nhan Tran, for the courtesies extended to applicants representative during the telephone conference of February 21, 2008, during which the amendments set forth herein were discussed. The Examiner indicated that he would consider the revisions to the claims, and applicants indicated they would file a Request for Continued Examination.

In accordance with the Examiner's requirement, applicants submit herewith a revised Specification, including appropriate headings.

In rejecting the pending claims under 35 U.S.C. §102 and §103, the Examiner has relied upon U.S. Patent Publication No. 2004/0012698, to Suda et al., U.S. Patent No. 6,072,634, to Broome et al., and U.S. Patent No. 5,617,131, to Murano et al. However, as set forth in the amended claims, it is believed that applicants' camera device is clearly patentably distinct from these references, singly or in combination, and accordingly, the Examiner's rejections are respectfully traversed.

By this Amendment, applicants have revised the presently pending claims to specify that the recited spacer substrate of their camera device comprises a *glass spacer*, and further, specify that the adhesive layers provided in their camera device comprise one of ultra-violet curing resin, or thermal-hardening resin. Additionally, the pending claims have been revised to

specify that the spacer substrate comprises a *hole coaxially positioned relative to a main optical axis of the lens element*, in accordance with their disclosed embodiments.

In the Action, the Examiner has made reference to Figures 1A-B and 56 of the Suda et al. reference, but applicants respectfully disagree with the Examiner's characterization of this reference's teachings.

With reference to Figures 1A and 1B, there is shown an upper substrate 101 having a lens 100, a lower substrate 102, light shielding diaphragm layer 103 formed on the upper surface of the lower substrate spacer 100, for example, by offset printing. A semi-conductor chip 104 is provided, with adhesive 105 adhering the lower substrate 102 and a semi-conductor chip 104, with the device including a diaphragm aperture 200.

In accordance with paragraph [0132], the light-shielding diaphragm layer 103 (Figure 1A in Suda et al.) is made by sputtering a chromium thin film.

In the Action, the Examiner has stated that the light shielding diaphragm layer 103 has an adhesive property for adhering the upper substrate 101 and the lower substrate 102, as disclosed in paragraph [0119].

In principle, paragraph [0119] does not disclose how upper substrate 101 adheres to lower substrate 102. The only information provided in this reference is that the light shielding diaphragm layer 103 is formed on lower substrate 102 by offset printing (and without any adhesive layer).

For inherency of adhesive properties of chromium thin film, the Examiner refers to U.S. Patent No. 5,502,381, to Saitou. The Saitou reference relates to a mechanical sensor for sensing a mechanical property. Referring to Figures 1 and 2, substrate 11 is provided with a

first magnetic layer 12a by a sputtering method. A first insulated layer 13a of  $\text{SiO}_x$  is formed so that a layer 13a of  $\text{SiO}_x$  is formed on the magnetic layer 12a with a sputtering method. A planar coil 14 made of aluminum films is formed on the first insulated layer 13a. As discussed at column 3, lines 6-9, copper or aluminum have poor adherence with the oxide, i.e., the insulated layer 13a. A layer for improving adherence, made of chromium or the like, is thus required. Therefore, it is preferable that chromium is included as a constituent element of the first magnetic layer 12a in order to improve adherence.

On the basis of this disclosure, one can conclude that chromium has a good adherence property with the oxide similarly to aluminum. Furthermore, in order to improve adherence, it is preferable that chromium is included as a constituent element in the magnetic layer 12a. It is respectfully submitted that it is improper to say that the light shielding member 103 functions as an *adhesive* layer between the lower substrate 102 (made of glass) and the upper substrate 101 (also made of glass). The Examiner has made a suggestion that the function of the light shielding member 103 is the same as the adhesive 105 between the photosensor 104 and the lower substrate 102 (made of glass).

On the basis of this conclusion, it is respectfully submitted that it is incorrect to say that in Figure 1B, lower substrate 102 (a spacer) is imbedded between a first adhesive layer (Reference No. 105), and a second adhesive layer (Reference No. 103).

In order to clarify the distinctive features of the present invention from the prior art, including the provision of light shielding diaphragm layer 103 (and its specific material, i.e., a chromium thin film), the presently pending claims have been revised to specify that the recited

first and second adhesive layers are provided in the form of an ultra-violet curing resin, or a thermal-hardening resin.

In further distinction from Suda et al., the presently pending claims have been revised to specify that the recited spacer substrate comprises *a hole coaxially positioned relative to a main optical axis of the lens element*. It is respectfully submitted that the lower substrate 102 of Suda et al. does not have such a hole.

By these amendments, it is respectfully submitted that claim 1, and the claims depending therefrom, are clearly patentably distinct from the prior art.

In connection with claim 18, the Examiner relied upon the Suda et al. reference, including Figures 7 and 31 of Suda et al.

Claim 18 has been revised generally in accordance with the revisions of claim 1. In view of these revisions, it is respectfully submitted that the light shielding diaphragm layer 103 of Suda et al. cannot be regarded as an adhesive layer. Furthermore, spacer 114 in Figure 8, or 102 in Figure 1A, does not comprise a hole coaxially positioned relative to a main optical axis of the lens element, as specified in the presently pending claims. It is respectfully maintained that the provision of adhesive layers in the form of ultra-violet curing resin, or thermal-hardening resin, are clearly distinct from the light shielding diaphragm layer 103 (made of chromium) in the Suda et al. reference, and it is therefore respectfully submitted that the rejection based upon this reference cannot be maintained.

Independent claim 20 has been revised generally in accordance with the revision set forth herein to claims 1 and 18. In the Action, with reference to claim 20, the Examiner makes reference to Figures 40B and 56, and paragraph [0373] of Suda et al. The Examiner has stated

that the lower substrate 502 should be regarded as a spacer. However, lower substrate 502 clearly does not comprise a hole coaxially positioned relative to a main optical axis of the lens element, as claimed.

Furthermore, the Examiner has stated that the light shielding layer 506 is to be regarded as an adhesive layer. As discussed above, it is respectfully noted that light shielding layer 506 cannot adhere lower substrate 502 and upper substrate 501 together. Thus, it is respectfully maintained that this rejection on the basis of Suda et al. cannot be maintained.

In the Action, the Examiner rejected claims 6, 16, 27, and 33 under 35 U.S.C. §103, as being unpatentable over Suda et al. in view of Broome et al. In the Action, the Examiner refers to Figure 26B or Figure 47 of Suda et al. Applicants respectfully refer to paragraph [0243] wherein it is clearly stated that for fixing the spacer 522 to the semiconductor chip 503, there may be applied an adhering step in producing an SOI (silicone on insulated) substrate. As noted hereinabove, such a method does not apply any resin, let alone an ultra-violet curing resin or a thermal-hardening resin. In Figure 26B, spacer 522 is adhered to optical element 512 via adhesive layer 509. Figure 26B clearly discloses that spacer 522 is *not* imbedded between a first adhesive layer and a second adhesive layer. The only adhesive layer present in Figure 26B is adhesive 509.

It is acknowledged that the Broome et al. reference discloses an opaque black spacer 150, wherein the internal surface of the spacer 150 is either diffused, or has micro-grooves to prevent specular reflection of light into the lens system. However, this sentence does not disclose that the *side* of the hole of the spacer substrate is provided with an anti-reflection *layer*,

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as such. A layer is to be regarded as something which is present on the *outer surface*, wherein the construction according to Broome refers to the *internal* surface of the opaque black spacer.

In view of the foregoing, formal allowance of claims 1-4, 6-8, 10-16, and 18-33 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **February 22, 2008**.

